

**Attorney Docket No. S-2500/CONT  
MAIL STOP AMENDMENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: ) Group Art Unit: 1712  
 )  
KAWASE; HORIGUCHI; KAWAHITO ) Examiner: M.G. Moore  
 )  
Serial No. 10/713,102 )  
 )  
Filed: November 17, 2003 )

For: **FLOW-AND-LEVELING AGENTS FOR WATERBORNE COATINGS**

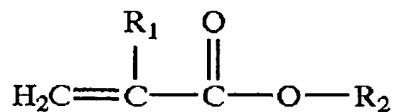
Appendix A

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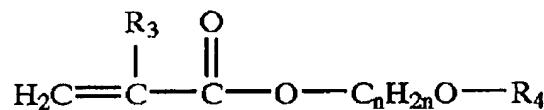
Claims 1-12 (Cancelled)

13. (Currently amended) A method for imparting flow-and-leveling properties to a water base coating comprising the step of: adding a trimethylsilyl group-containing copolymer obtained by copolymerizing 3-methacryloxypropyltrimethysilane (A) and/or a reactive monomer (B) selected from the group consisting of 3-methacryloxypropyltris(trimethylsiloxy)silane and/or and vinyltris(trimethylsiloxy)silane (B) with a (meth)acrylic acid ester (C) represented by the formula:

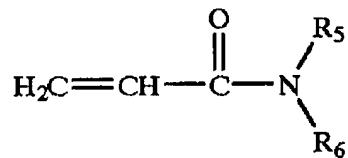


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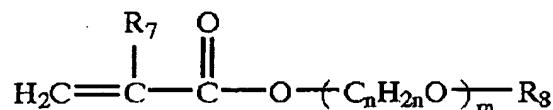
wherein R<sub>1</sub> represents a hydrogen atom or methyl, and R<sub>2</sub> represents an alkyl group having 1 to 12 carbon atoms, and/or a (meth)acrylic acid ester (D) represented by the formula:



wherein R<sub>3</sub> represents a hydrogen atom or methyl; R<sub>4</sub> represents an alkyl group having 1 to 18 carbon atoms; and n represents an integer of 2, 3 or 4, and acrylamide (E) represented by the formula:



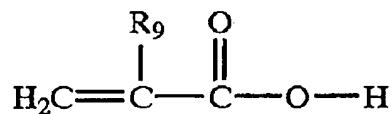
wherein R<sub>5</sub> and R<sub>6</sub> each represent a hydrogen atom or an alkyl group having 1 to 8 carbon atoms, and/or a (meth)acrylic acid ester (E) represented by the formula:



wherein R<sub>7</sub> represents a hydrogen atom or methyl; R<sub>8</sub> represents a hydrogen atom or an alkyl group having 1 to 18 carbon atoms; m

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represents an integer of 2 to 100, and n represents an integer of 2, 3 or 4; and  $-(C_nH_{2n}O)_m-$  means that 2 to 100 units of only one kind of a glycol unit out of three kinds of the glycol units in which n is 2, 3 and 4 are present and that total 2 to 100 units of two or three kinds of the glycol units out of the three kinds of the above glycol units are present, and/or a (meth)acrylic acid (G) represented by the formula:



wherein  $R_9$  represents a hydrogen atom or methyl, wherein the above trimethylsilyl group-containing copolymer contains a trimethylsilyl group originating in the monomer (A) and/or the monomer (B) in a proportion of 2 to 64% by weight, a copolymerization unit originating in the (meth)acrylic acid ester (C) and/or the (meth)acrylic acid ester (D) in a proportion of 2% by weight or more, a copolymerization unit originating in the acrylamide (E) and/or the (meth)acrylic acid ester (F) and/or the (meth)acrylic acid (G) in a proportion of 5% by weight or more, and it has a number average molecular weight of 500 to 30000, to the water base coating.

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14. (Canceled)

15. (Previously presented) A method for imparting flow-and-leveling properties to a water base coating comprising the step of: adding a trimethylsilyl group-containing copolymer obtained by copolymerizing the monomer (A) and/or the monomer (B) described in claim (13), the (meth)acrylic acid ester (C) and/or the (meth)acrylic acid ester (D) described in claim (13) and the acrylamide (E) and/or the (meth)acrylic acid ester (F) and/or the (meth)acrylic acid (G) described in claim (13) with a reactive monomer (H) capable of being copolymerized with them, wherein the above copolymer contains a trimethylsilyl group originating in the monomer (A) and/or the monomer (B) in a proportion of 2 to 64% by weight, a copolymerization unit originating in the (meth)acrylic acid ester (C) and/or the (meth)acrylic acid ester (D) in a proportion of 2% by weight or more, a copolymerization unit originating in the acrylamide (E) and/or the (meth)acrylic acid ester (F) and/or the (meth)acrylic acid (G) in a proportion of 5% by weight or more, a copolymerization unit originating in the monomer (H) in a proportion of not exceeding 50% by weight, and it has a number

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average molecular weight of 500 to 30000, to the water base coating.

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (Currently amended) The method as described in ~~any of~~ claims 13 or 15 to 16, wherein the (meth)acrylic acid ester (C) is selected from the group consisting of methyl(meth)acrylate, ethyl(meth)acrylate, normal propyl(meth)acrylate, isopropyl (meth)acrylate, normal butyl(meth)acrylate, isobutyl (meth)acrylate, tertiary butyl(meth)acrylate, normal octyl(meth)acrylate, 2-ethylhexyl(meth)acrylate, isononyl(meth)acrylate and lauryl(meth)acrylate.

20. (Currently amended) The method as described in ~~any of~~ claims 13 or 15 to 16, wherein the (meth)acrylic acid ester (D) is selected from the group consisting of 2-methoxyethyl

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(meth)acrylate, 2-ethoxyethyl(meth)acrylate, 2-butoxyethyl(meth)acrylate, 2-octoxyethyl(meth)acrylate, 2-lauroxyethyl(meth)acrylate, 2-stearoxyethyl(meth)acrylate, 3-methoxybutyl(meth)acrylate and 4-methoxybutyl(meth)acrylate.

21. (Currently amended) The method as described in ~~any of~~ claims 13 or 15 to 16, wherein the acrylamide (E) is selected from the group consisting of acrylamide, N-methylacrylamide, N-ethylacrylamide, N-isopropylacrylamide, N-normal butylacrylamide, N-tertiary butylacrylamide, N-2-ethylhexylacrylamide, N,N-dimethylacrylamide, N,N-diethylacrylamide and diacetoneacrylamide.

22. (Currently amended) The method as described in ~~any of~~ claims 13 or 15 to 16, wherein the (meth)acrylic acid ester (F) is selected from the group consisting of ethylcarbitol (meth)acrylate, methoxypolyethylene glycol(meth)acrylate, methoxypolypropylene glycol(meth)acrylate, methoxypoly(ethylene-propylene) glycol(meth)acrylate, methoxypoly(ethylene-tetramethylene) glycol(meth)acrylate, butoxypoly(ethylene-propylene) glycol(meth)acrylate, octoxypoly(ethylene-propylene)

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glycol(meth)acrylate, lauroxypolyethylene glycol(meth)acrylate and lauroxypoly(ethylene-propylene) glycol(meth)acrylate.

23. (Canceled)

24. (Currently amended) The method as described in claim 15 13 or 16 15, wherein the monomer (H) is selected from the group consisting of tridecyl (meth)acrylate, myristyl(meth)acrylate, hexadecyl (meth)acrylate, stearyl (meth)acrylate, behenyl(meth)acrylate, cyclohexyl(meth)acrylate, isobonyl (meth)acrylate, nonylphenoxyxypolyethylene glycol(meth)acrylate; styrene,  $\alpha$ -methylstyrene, chlorostyrene, vinyltoluene; vinyl acetate, vinyl propionate, diallyl phthalate; ethyl vinyl ether; normal propyl vinyl ether, isopropyl vinyl ether, normal butyl vinyl ether, isobutyl vinyl ether, tertiary butyl vinyl ether, normal octyl vinyl ether, 2-ethylhexyl vinyl ether, methyl vinyl ether, cyclohexyl vinyl ether; vinyl chloride; vinylidene chloride; chloroprene; propylene; butadiene; isoprene; and fluoroolefinmaleimide.